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BY

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NEW OR INTERESTING ORCHIDS FROM
ECUADOR AND COLOMBIA

DURING 1939, C. William Penland and Robert H. Summers of Colorado College undertook botanical exploration in Ecuador. The orchids collected consisted of 136 numbers, mostly in duplicate. Among these there were a few apparently undescribed species. Several collections, other than those of Penland and Summers, have been included in this paper because of their relation to the Penland and Summers specimens.

***Lepanthes echinocarpa* L. O. Williams sp. nov.**

Herbae epiphyticae, repentes, usque ad 1.5 dm. longae. Folia oblanceolata, ovato-oblanceolata vel elliptico-ovalia, obtusa, carnosa, glabra. Inflorescentia pauciflora, laxa, quam folia longior. Sepalum dorsale orbiculariovatum, aristato-apiculatum, cucullatum, trinervium. Sepala lateralialia oblongo-ovata, aristato-apiculata, margine exteriore apicem versus serrulata. Petala lineari-lanceolata, obtusa, uninervia. Labellum trilobatum; lobi laterales explanati, lati; lobus medius parvus et carnosus, cucullatus; discus callo mammillato ornatus. Columna sectionis. Ovarium echinato-pubescentis.

Repent epiphytic herbs up to about 1.5 dm. long.

Secondary stems about 5 mm. long, very slender and inconspicuous, covered with scarious sheaths. Leaves 10–20 mm. long, 4–8 mm. broad, oblanceolate, ovate-oblanceolate or elliptic-oval, obtuse, fleshy, glabrous. Inflorescence few-flowered, lax, much exceeding the subtending leaf; bracts 1–2 mm. long, chartaceous, surrounding the rachis and the pedicel, apiculate, about half as long as the pedicel. Dorsal sepal about 4.5 mm. long including the aristate apicule, orbicular-ovate, aristate-apiculate, serrulate (at least above), 3-nerved, cucullate. Lateral sepals about 4.5 mm. long and 2 mm. broad, oblong-ovate, aristate-apiculate, serrulate toward the apex along the outer margins only, 3-nerved, the inner margins connate for about 2 mm. Petals about 1.2 mm. long and 0.3 mm. broad, linear-lanceolate, obtuse, 1-nerved. Lip about 2 mm. long and 3 mm. broad when expanded, 3-lobed; lateral lobes explanate, about 1.5 mm. long and 1.25 mm. broad; mid-lobe very small and fleshy, about 0.4 mm. long and 0.25 mm. broad, cucullate; disc somewhat fleshy, with a small mammillate callus near the junction of the mid-lobe with the lateral lobes. Column 2–2.5 mm. long, slender. Ovary echinate-pubescent.

ECUADOR: epiphyte in moss at base of tree, Hacienda Talahua, Province of Bolivar, leaves thick and fleshy, dull green above, paler below, flowers brownish yellow, column and lip reddish brown, capsule hairy, at 2600 meters altitude, May 2, 1939, *Penland & Summers 611* (TYPE in Herb. Ames No. 57860).

Lepanthes echinocarpa is allied to *L. pensilis* Schltr., from which it is distinguished by the aristate-apiculate sepals, the much smaller mid-lobe of the lip and the generally broader leaves. *Lepanthes lancipetala* L.Wms. is allied to the present species, from which it is also distinguished by the small mid-lobe of the lip and by other characters.

Lepanthes lancipetala *L. O. Williams sp. nov.*

Herbae epiphyticae, repentes, usque ad 4 dm. longae. Folia lanceolata, oblanceolata vel elliptica, obtusa vel acuta, carnosissima. Inflorescentia laxe pauci-vel pluriflora, secunda, quam folia longior. Sepalum dorsale ovale, apiculatum, paene usque ad basim serrulatum, cucullatum. Sepala lateralía ovato-lanceolata, apiculata, margine exteriori ciliata, trinervia. Petala lanceolata, acuta, carnosá. Labellum trilobatum; lobi laterales subovales, obtusi; lobus medius suborbicularis, obtusus; discus carnosus, callo mammillato ornatus. Columna sectionis. Ovarium echinato-pubescens.

Repent, epiphytic herbs up to 4 dm. long. Secondary stems up to 6 mm. long, very slender and inconspicuous, covered with the chartaceous sheaths of the primary stem. Leaves 15–35 mm. long, 3–7 mm. broad, lanceolate, oblanceolate or elliptic, obtuse or acute, very fleshy, glabrous. Inflorescence few- to several-flowered, lax, secund, exceeding the subtending leaf; bracts about 1 mm. long, chartaceous, apiculate, surrounding the rachis and pedicel, subequal to or a little shorter than the pedicel. Dorsal sepal 3.5–4 mm. long, 2.5–3 mm. broad, oval, apiculate, serrulate nearly to the base, cucullate, carinate along the mid-nerve dorsally. Lateral sepals about 4.5 mm. long and 2 mm. broad, ovate-lanceolate, apiculate, coarsely glandular-ciliate along the outer margins with the inner margins smooth or nearly so, 3-nerved, with the mid-nerve lamellate dorsally. Petals 0.8–1 mm. long, about 0.2 mm. broad, lanceolate, acute, fleshy. Lip about 2 mm. long and 3–3.5 mm. broad when expanded, with the surface more or less glandular-papilliferous, 3-lobed; lateral lobes suboval, obtuse, about 1.5 mm. long from the apex to the point of attachment and 1 mm. broad; mid-lobe 1 mm. long and about 1 mm. broad, suborbicular, obtuse; disc fleshy, with a mammillate callus near

the junction of the mid-lobe with the lateral lobes. Column 2–2.5 mm. long. Ovary pubescent with coarse hairs.

ECUADOR: epiphyte, Lake Cuicocha, Province of Imbabura, at 3300 meters altitude, leaves thick, fleshy, pale green, sepals transparent light brown, the dorsal with three purple-red stripes, sides of the lip arched around the column, capsule prickly, June 2, 1939, *Penland & Summers 835* (TYPE in Herb. Ames No. 57873).

Lepanthes lancipetala is closely allied to *L. pensilis* Schltr. from which it is distinguished by the lobes of the lip, when expanded, being at right angles to the axis, and by the callus on the disc of the lip. *Lepanthes echinocarpa* L. Wms. is also an allied species.

***Lepanthes micropetala* L. O. Williams sp. nov.**

Herbae epiphyticae, repentes, pensiles, usque ad 4.5 dm. longae. Folia plusminusve ovalia, obtusa, glabra vel leviter hispido-ciliata. Inflorescentia uni-vel pauciflora, quam folia brevior. Sepala in tubum brevem connata. Sepalum dorsale orbiculari-ovatum, obtusum, trinervium. Sepala lateralialia late ovata, acuta, binervia, sparse ciliata. Petala suborbicularia, abortiva. Labellum expansum reniformi-cordatum, obtusum, trinervium. Columna sectionis.

Pendent or repent epiphytic herbs up to about 4.5 dm. long. Primary stems closely sheathed with scarious, hispid bracts, which are expanded at their apex. Secondary stems minute, about 0.5–1 mm. long. Leaves 4–8 mm. long, 1.5–5 mm. broad, commonly oval in outline (rarely broader or narrower), obtuse, essentially glabrous or somewhat hispid-ciliate. Inflorescence one- or at most few-flowered, shorter than the subtending leaf; bracts about 1 mm. long, hispid. Sepals connate into a short tube at the base. Dorsal sepal about 2.5 mm. long and 2.5 mm. broad, orbicular-ovate, obtuse, 3-nerved, pu-

berulous within. Lateral sepals 2.5–3 mm. long, about 2 mm. broad, broadly ovate, acute, 2-nerved, sparsely ciliate, glabrous within. Petals about 0.13 mm. long and 0.12 mm. broad, suborbicular, abortive. Lip about 1 mm. long and 2 mm. broad when expanded, reniform-cordate, obtuse, 3-nerved with the lateral portions (in natural position) surrounding the column. Column about 1 mm. long, slender. Ovary echinulate on the angles when immature, becoming smooth with age.

COLOMBIA: pendent epiphytic herbs, wet glen in forest, "San José," San Antonio, Department of El Cauca, Cordillera Occidental, at 2400–2700 meters altitude, perianth brown, June 28, 1922, *Pennell & Killip 7331* (TYPE in Herb. Ames No. 47021); same data, *Pennell & Killip 7332*.

Lepanthes micropetala is without close allies, but is perhaps nearest to *L. polygonoides* Smith & Harris in floral structure, and to *L. pseudocaulescens* Smith & Harris in vegetative structure.

***Lepanthes pseudocaulescens* Smith & Harris** in Bot. Mus. Leaf. Harv. Univ. 2 (1934) 33, t.

COLOMBIA: epiphytic herb, open trail, La Cumbre, Cordillera Occidental, Department of El Valle, perianth deep purple, September 19, 1922, *Killip 11417*.

The drawing of the petals in the figure cited should be corrected so as to show the lobe next to the lateral sepals shorter than the lobe next to the dorsal sepal, the apex more pronounced and rounded, and the margins obscurely ciliate.

***Masdevallia* (§ Rhombopetalae) *Summersii* L. O. Williams** *sp. nov.*

Herbae parvae, caespitosae, epiphyticae, usque ad 6 cm. altae. Caules secundarii graciles, cylindracei, unifo-

liati. Folia anguste lineari-oblongata, acuta vel obtusa. Inflorescentia uniflora, quam folia brevior. Sepala in tubum connata. Sepalum dorsale expansum late ovatum, aristato-caudatum, cucullatum, trinervium. Sepala lateralia lanceolata, aristato-caudata, trinervia, prope basim callo ornata. Petala subquadrata, pandurata, apice bilobulata. Labellum unguiculatum; lamina obovato-sagittata, obtusa; unguis linearis, canaliculatus, basi biauriculatus. Columna generis.

Small, caespitose, epiphytic herbs up to 6 cm. tall. Secondary stems up to 1.5 cm. long, very slender, cylindrical, unifoliate, covered with scarious bracts. Leaves 2.5–4.5 cm. long, 2–3 mm. broad, narrowly linear-oblongate, acute or obtuse, marginate or obscurely so. Inflorescence 1-flowered, much shorter than the subtending leaf. Sepals connate into a short tube at the base. Dorsal sepal broadly ovate (when expanded), aristate-caudate, strongly cucullate; lamina about 4 mm. long and 3.5 mm. broad, 3-nerved; aristate cauda 2–2.5 mm. long. Lateral sepals lanceolate, aristate-caudate; lamina about 4 mm. long and 1.5 mm. broad, 3-nerved, with a conspicuous callus near the base; aristate cauda 3–4 mm. long. Petals about 1.75 mm. long and 1.5 mm. broad, subquadrate, pandurate, bilobulate at the apex. Lip unguiculate; lamina about 2 mm. long and 1.7 mm. broad, obovate-sagittate, obtuse; claw about 1 mm. long, linear, canaliculate, biauriculate at the base. Column about 2.5 mm. long, arcuate, with a lanceolate pendent tooth about 0.5 mm. long on each side toward the apex; column-foot about 1.5 mm. long.

ECUADOR: epiphytic, Lake Cuicocha, Province of Imbabura, at 3300 meters altitude, sepals translucent with brilliant violet-purple markings, lip slightly deeper purple, June 2, 1939, *Penland & Summers 837* (TYPE in Herb. Ames No. 57872).

Masdevallia Summersii is allied to *M. simula* Reichb. f. and to *M. popayanensis* Lehm. & Kränzl., from both of which it is distinguished by the pendent teeth on the column and by the shape of the lip.

***Diothonea angustifolia* Schlechter** in Fedde Repert. Beihefte 8 (1921) 65—Schlechter ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 85, Nr. 331.

ECUADOR: island in Lake Cuicocha, Province of Imbabura, at 3100 meters altitude, May 29, 1939, *Penland & Summers 757*.

Diothonea angustifolia is allied to *D. lloensis* Lindl. and perhaps should not be segregated. Among the few specimens of *D. angustifolia* available, it seems that this species may be separated by the petals which have three nerves, by the broad wing of the column and by the mid-lobe of the lip which is much larger than the lateral lobes and is cordate at the base instead of cuneate.

Diothonea heterothonea Reichenbach filius & Warscewicz in Bonplandia 2 (1854) 112.

COLOMBIA: on trees in dense forests on the highlands of Popayan, at 1600-2000 meters altitude, November, *Lehmann 8371*.

Diothonea heterothonea is a rare species which was discovered by Warscewicz in Peru. There is a drawing and an analysis of this species (made by Reichenbach) in the Ames Herbarium. There can be no doubt that the plants collected by Lehmann represent the same species as those of Warscewicz.

Epidendrum catillus Reichenbach filius & Warscewicz in Bonplandia 2 (1854) 112.

ECUADOR: terrestrial, along Pastaza River below Machay, Province of Tunguragua, at 1350 meters altitude, March 18, 1939, *Penland & Summers 114*.

Epidendrum catillus is a rare species which was known previously only from Colombia. The specimen cited is in the Herbarium of Colorado College in Colorado Springs.

We have not seen specimens of *Epidendrum vinosum* Schltr. from Peru, but from the description and a plate it seems quite possible that it is the same species as *E. catillus*.

A drawing of *E. catillus* from Reichenbach's herbarium indicates that the sepals and petals are acute. Those on the plant cited are obtuse.

***Epidendrum* (§*Euepidendrum*) *nitidum* L. O. Williams sp. nov.**

Herbae epiphyticae, parvae, usque ad 2 dm. altae. Caules ramosi. Folia linearia, obtusa vel acuta, apiculata. Inflorescentia fractiflexa. Sepalum dorsale oblanceolatum vel elliptico-oblanceolatum, obtusum vel acutum, quinquenervium, columnae adnatum. Sepala lateralia ovato-lanceolata, obtusa vel acuta, quinquenervia, columnae adnata. Petala oblanceolata, obtusa, supra crenata. Labellum columnae valde adnatum; lamina late cordata, auriculata, obtusa, emarginata, sub apice paulo constricta, sublacerato-crenata, callo V- vel U-formi ornata; unguis longus. Columna sectionis.

Small epiphytic herbs up to 2 dm. tall. Stems branched, becoming somewhat indurated and subfusiform, foliate only at the apex, naked below or the old leaf-sheaths soon disintegrating. Leaves 4.5–9 cm. long, 1.5–4 mm. broad, linear, obtuse or acute, apiculate, with two leaves borne at the summit of each year's growth. Inflorescence up to 8 cm. long, strongly fractiflex and apparently spiral; bracts up to 5 mm. long, lanceolate to ovate-lanceolate, acuminate or acute. Dorsal sepal 6–8 mm. long, 2–3.5 mm. broad, oblanceolate to elliptic-oblanceolate, obtuse

or acutish, 5-nerved. Lateral sepals 6.5–8 mm. long, 3–4.5 mm. broad, ovate-lanceolate, obtuse or acute, 5-nerved, adnate to the column along the mid-nerve for about 2 mm. at the base. Petals 6–7.5 mm. long, 1.8–2.5 mm. broad, oblanceolate, obtuse, with the apical half crenate. Lip strongly adnate to the column; lamina 5.5–7 mm. long and 5.5–7 mm. broad, broadly cordate in outline, with prominent basal auricles, obtuse, emarginate, slightly constricted below the apex, with sublacerate-crenate margins; disc with a prominent V- or U-shaped callus 3–4 mm. long; claw 2.5–3 mm. long, mostly adnate to the column but with the terminal part free. Column of the section, 4.5–5 mm. long.

ECUADOR: epiphyte, mountain side above Loja, Province of Loja, at 2600 meters altitude, "inflorescence zig-zag, sepals and petals lead colored with white margins, labellum dull green within, margins thin, column green at the base, then white" July 28, 1939, *Penland & Summers 1141* (TYPE in Herb. Ames No. 55404).

A most distinctive species with no close ally. Although the base of the stem is suggestive of the section *Encyclium*, it belongs to the section *Euepidendrum*.

***Epidendrum* (§ *Euepidendrum*) *Penlandii* L. O. Williams sp. nov.**

Herbae parvae, epiphyticae, usque ad 1.5 dm. altae. Caules usque ad 2 cm. longi, apice bifoliati. Folia lanceolata, acuta, carnosa, quam caules longiora. Sepalum dorsale oblanceolatum, obtusum vel leviter acutum, trinervium. Sepala lateralibus oblongo-lanceolata vel oblonga, falcata, trinervia. Petala clavellato-filiformia, obtusa. Labellum columnae valde adnatum; lamina subreniformis, trilobata; lobi laterales explanati, crenati; lobus medius parvus, emarginatus, subcrenatus; discus carnosus, callis tribus vel quinque ornatus. Columna generis.

Small caespitose, epiphytic herbs up to 1.5 dm. tall.

Stems up to about 2 cm. long, usually bifoliate at the apex, covered with scarious sheaths. Leaves 4.5–8.5 cm. long, 0.6–1.5 cm. broad, lanceolate, acute, fleshy, much exceeding the stems in length. Inflorescence erect, surpassing the leaves, lax, few-flowered; bracts up to 6 mm. long, lanceolate, acuminate, much shorter than the pedicels. Dorsal sepal about 6.5 mm. long and 2–2.5 mm. broad, oblanceolate, obtuse or acutish, 3-nerved. Lateral sepals about 5.5 mm. long and 2–2.5 mm. broad, oblong-oblanceolate to oblong, strongly falcate, 3-nerved. Petals 5.5–6 mm. long and about 1 mm. broad, clavellate-filiform, obtuse. Lip strongly adnate to the column; lamina about 4 mm. long and 7 mm. broad, subreniform, 3-lobed; lateral lobes broad, explanate, crenate, thin; mid-lobe small, emarginate, subcrenate, thin; disc very fleshy, with 3 (or 5) callus-like thickenings; claw about 5 mm. long, basal portion adnate to the column. Column about 5–6 mm. long, straight or only slightly arcuate.

ECUADOR: epiphyte, island in Lake Cuicocha, Province of Imbabura, at 3100 meters altitude, "leaves thick, dark green above, bronze beneath, sepals pinkish white, petals narrow and white, labellum white with yellowish center, slightly fringed, column pale pastel green," May 29, 1939, *Penland & Summers 756* (TYPE in Herb. Ames No. 57881).

Epidendrum Penlandii is closely allied to *E. conopseum* R. Br., a species which occurs in the southern United States, with a variety in Mexico, but differs in the calli of the lip, in having smaller flowers and larger leaves. The outline of the segments of the flowers is almost identical in the two species. It is interesting to find a species in Ecuador which is so similar to a species of the southern United States and Mexico.

***Epidendrum piperinum* Lindley** in Ann. & Mag. Nat. Hist. 15 (1845) 256.

? *Epidendrum peperomioides* Schlechter in Fedde Repert. Beihefte 8 (1921) 79—Schlechter ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 91, Nr. 354.

ECUADOR: Lake Cuicocha, Province of Imbabura, at 3300 meters altitude, June 2, 1939, *Penland & Summers* 836.

In the Ames Herbarium there is a drawing of *Epidendrum piperinum* from Lindley's Herbarium, as well as the Schlechter plate and description of *E. peperomioides*. There seems to be only a slight difference in the size of the labellum between the species proposed by Lindley and Schlechter. The species is quite rare.

***Epidendrum polystachyum* Humboldt, Bonpland & Kunth** Nov. Gen. & Sp. Pl. 1 (1815) 352.

ECUADOR: near Chinche, between San Pedro and Zaruma, Province of Loja, at 1900 meters altitude, August 1, 1939, *Penland & Summers* 1204.

Epidendrum polystachyum is a very interesting species. The stems are similar to those of the section Encyclium, also the leaves are borne at the apex of the stem or pseudobulb. However, the flowers are exactly those of the section Euepidendrum and there can be little doubt that it belongs to this section, although it seems to be somewhat intermediate between the two sections. Mr. Summers has written that the plant grew in a nest of vicious ants, that the relationship between the orchid and the ants interested him, but that because of the ants he could not study the plant closely. The association of the ants with the hollow pseudobulbs is similar to that found in some species of Schomburgkia.

***Epidendrum* (§ Euepidendrum) *rhombochilum* L.O. Williams** sp. nov.

Herbae caespitosae, epiphyticae vel terrestres, usque ad 4.5 dm. altae. Caules ramosi. Folia linearia vel lan-

ceolata, obtusa et apiculata vel rare acuta. Inflorescentia pauciflora, nutans. Sepalum dorsale ellipticum vel oblanceolatum, obtusum, trinervium, carnosum. Sepala lateralia lanceolata vel ovato-lanceolata, obtusa vel acuta, obliqua, tri-vel obscure quinquenervia, carnosa, apiculata. Petala anguste linearia vel filiformia, obtusa, uninervia, leviter obliqua. Labellum columnae adnatum; lamina rhombica vel transverse rhombica, acuta, carnosissima, ecallosa, cochleata. Columna sectionis.

Caespitose, epiphytic or terrestrial herbs up to 4.5 dm. tall. Stems slender, profusely branched. Leaves 15–40 mm. long, 2.5 mm. broad, linear to lanceolate, obtuse and apiculate or rarely acute; leaf-sheaths verrucose. Inflorescence few-flowered, nodding; bracts up to 6 mm. long, ovate-lanceolate, acute or acuminate, cucullate. Dorsal sepal 7–8 mm. long, 2.5–3 mm. broad, elliptic to oblanceolate, obtuse, 3-nerved, fleshy. Lateral sepals 6.5–7.5 mm. long, 3–3.5 mm. broad, lanceolate to ovate-lanceolate, obtuse or acute, oblique, 3- or obscurely 5-nerved, fleshy, with a dorsal apicule near the apex. Petals about 6.5 mm. long and 0.5–0.8 mm. broad, narrowly linear or filiform, obtuse, 1-nerved, slightly oblique. Lip adnate to the column; lamina 4.6 mm. long and 4–6.5 mm. broad, rhombic to transversely rhombic, acute, very fleshy, without conspicuous calli, cochleate, with the sides erect and enfolding the apex of the column; claw about 2 mm. long, adnate to the column. Column of the section, about 4 mm. long.

ECUADOR: terrestrial, Paramo of Minza, Province of Tunguragua, at 3800 meters altitude, "flowers greenish-yellow, becoming yellower with age," labellum distinctly fleshy, April 9, 1939, *Penland & Summers 376* (TYPE in Herb. Ames No. 57926).

Epidendrum rhombochilum does not seem to be closely allied to any species, although there are many species which are similar in habit.

The specimen was terrestrial, but the type of root-system indicates that it is at least a facultative epiphyte and that the terrestrial habit was due to chance.

Epidendrum (§ *Euepidendrum*) **vesicicaule** *L. O. Williams* *sp. nov.*

Herbae caespitosae, epiphyticae, multo ramosae, usque ad 2.5 dm. altae. Folia lineari-lanceolata vel lanceolata, acuminata vel acuta, falcata, carnosa; vaginae vesiculatae, plusminusve hyalinae. Inflorescentia uni- vel pauciflora et umbellata. Sepalum dorsale elliptico-lanceolatum, obtusum vel acutum, trinervium. Sepala lateralibus ovato-lanceolata, acuta, trinervia, leviter obliqua. Petala linearia, uninervia. Labellum columnae valde adnatum; lamina late cordata, bicallosa. Columna generis.

Caespitose, profusely branched, epiphytic herbs up to 2.5 dm. tall. Stems slender, much branched below, invested with the bladder-like sheaths of the leaves. Leaves 3.5–6 cm. long, 4–8 mm. broad, linear-lanceolate to lanceolate, acuminate or acute, falcate, very fleshy; sheaths somewhat bladder-like and more or less hyaline. Inflorescence one- to few-flowered, umbellate, subtended by a large chartaceous bract. Dorsal sepal about 13 mm. long and 3.5 mm. broad, elliptic-lanceolate, obtuse or acute, 3-nerved. Lateral sepals about 12 mm. long and 4.5 mm. broad, ovate-lanceolate, acute, 3-nerved, slightly oblique. Petals about 13 mm. long and 1.5 mm. broad, linear, 1-nerved. Lip strongly adnate to the column; lamina about 7.5 mm. long and 8 mm. broad, broadly cordate, with two mammillate calli at the base; very fleshy above the calli; claw about 6 mm. long, adnate to the column. Column about 7 mm. long. Summit of the ovary with a vesiculate swelling just below the base of the lip.

ECUADOR: epiphyte, edge of forest between Paramos Minza Chica and Minza Grande, Province of Tunguragua, at 3800 meters altitude, "flower pale transparent green, central part of the lip thick and whitish," April 5, 1939, *Penland & Summers 333* (TYPE in Herb. Ames No. 57891).

Epidendrum vesicicaule is allied to *E. piperinum* Lindl., *E. Peperomia* Reichb.f. and *E. peperomioides* Schltr. (all of which are very similar), but differs in its larger size, in the shape of the leaves, and in the structure of the flowers.

The specimen (*Lehmann 8338*) cited by Kränzlin in Engler's Bot. Jahrb. 26 (1899) 462, as *Epidendrum Peperomia* Reichb.f. may belong here, but the flowers of the specimen of that number in the Ames Herbarium are not in condition to warrant a sure diagnosis.

The specific name is in allusion to the bladder-like leaf-sheaths which cover the stem.

Scaphyglottis Summersii L. O. Williams sp. nov.

Herbae terrestres vel epiphyticae, ramosae, usque ad 4.5 dm. longae. Caules graciles, ramosi. Folia linearia vel lineari-lanceolata, obtusa, emarginata. Inflorescentiae uniflorae, singulae vel fasciculatae. Sepalum dorsale ovato-lanceolatum, acutum, cymbiforme, septemnervium. Sepala lateralibus oblongo-lanceolata, acuta, leviter obliqua, quinque- vel septemnervia. Petala oblongo-lanceolata, acuta vel obtusa, repanda, tri-vel obscure quinquenervia. Labellum cuneatum, truncatum, retusum, geniculatum; discus carnosus, tuberculatus. Columna apice auriculato-alata; pollinia quatuor.

Terrestrial or epiphytic, fasciculately branched herbs up to 4.5 dm. long. Stems slender, smooth, covered with leaf-sheaths which soon disintegrate, with one or more groups of fascicled branches. Leaves 2-9 cm. long and 2-5 mm. broad, linear or linear-lanceolate, obtuse, emar-

ginate. Inflorescences 1-flowered, single or fascicled. Dorsal sepal 7–8 mm. long, 3.5–4 mm. broad, ovate-lanceolate, acute, cymbiform, 7-nerved. Lateral sepals 7–8 mm. long and about 3–5 mm. broad, oblong-lanceolate, acute, slightly oblique, 5- or 7-nerved. Petals 6–7 mm. long, 2.5–3 mm. broad, oblong-lanceolate, acute or obtuse, repand, 3- or obscurely 5-nerved. Lip 6–7.5 mm. long and 4–5.5 mm. broad near the apex, cuneate, truncate, retuse, somewhat constricted just above the base, geniculate; disc thickened and fleshy, tuberculate. Column about 4 mm. long, auriculate-winged at the apex; pollinia four.

ECUADOR: terrestrial among rocks, Pastaza River at Baños, Province of Tunguragua, “flowers brownish-tan,” at 1750 meters altitude, March 15, 1939, *Penland & Summers 81* (TYPE in Herb. Ames No. 57816).

Scaphyglottis Summersii is not closely allied to any South American species. The closest ally apparently is *Scaphyglottis bilobulata* Schltr., from Central America.

Maxillaria dichotoma (*Schltr.*) *L. O. Williams*
comb. nov.

Camaridium dichotomum Schlechter in Fedde Repert. Beihefte 7 (1921) 98—Schlechter ex Mansfeld in Fedde Repert. Beihefte 57 (1929) t. 98, Nr. 382.

ECUADOR: just east of Río Topo bridge, Province of Napo-Pastaza, at 1226 meters altitude, March 23, 1939, *Penland & Summers 254*.

This is a rare species. The determination was made from the characters and the plate.

Maxillaria luteorubra (*Lindl.*) *Reichenbach filius*
in Walp. Ann. 6 (1863) 539.

Camaridium luteorubrum Lindley Orch. Lind. (1846) 22.

Maxillaria cassapensis Reichenbach filius in Walp.
Ann. 6 (1863) 539.

VENEZUELA: Province of Mérida, April 1842, *Linden* 633.

ECUADOR: on rocks, just west of Río Topo Bridge, Province of Napo-Pastaza, at 1226 meters altitude, March 23, 1939, *Penland & Summers* 243.

PERU: in rupium fissuris prope Cuchero, September 1829, *Poeppig* 1387.

Maxillaria luteorubra is new to the flora of Ecuador.

Maxillaria cassapensis does not seem to be distinct, although the leaves of the type are narrower than those of *M. luteorubra*.

EXPLANATION OF THE ILLUSTRATIONS

PLATE I. *LEPANTHES LANCIPETALA* L. O. Williams. 1, plant, natural size. 2, flower, enlarged five times.—*LEPANTHES ECHINOCARPA* L. O. Williams. 3, plant, natural size. 4, flower, enlarged five times.—*LEPANTHES MICROPETALA* L. O. Williams. 5, plant, natural size. 6, flower, enlarged seven and one half times.—*MASDEVALLIA SUMMERSII* L. O. Williams. 7, plant, natural size. 8, flower, enlarged three times. 9, petal, enlarged five times. 10, lateral sepals, enlarged three times. 11, lip, enlarged five times. 12, column and column-foot, enlarged five times.

Drawn by G. W. DILLON

PLATE II. *EPIDENDRUM NITIDUM* L. O. Williams. 1, plant, natural size. 2, flower, enlarged four times. 3, lip, enlarged eight times.

Drawn by G. W. DILLON

PLATE III. *EPIDENDRUM PENLANDII* L. O. Williams. 1, plant, natural size. 2, flower, enlarged three times. 3, lip and column from the side, enlarged three times.—*EPIDENDRUM RHOMBOCHILUM* L. O. Williams. 4, plant, natural size. 5, flower seen from above, enlarged three times. 6, lip, enlarged five times. 7, flower seen from the side, enlarged three times.

Drawn by G. W. DILLON

PLATE IV. *EPIDENDRUM VESICICAULE* L. O. Williams. 1, plant, natural size. 2, flower, enlarged one and one half times. 3, lip, enlarged two and one half times.—*SCAPHYGLOTTIS SUMMERSII* L. O. Williams. 4, plant, natural size. 5, flower, enlarged one and one half times. 6, lip, enlarged three times. 7, lip and column from the side, enlarged one and one half times.

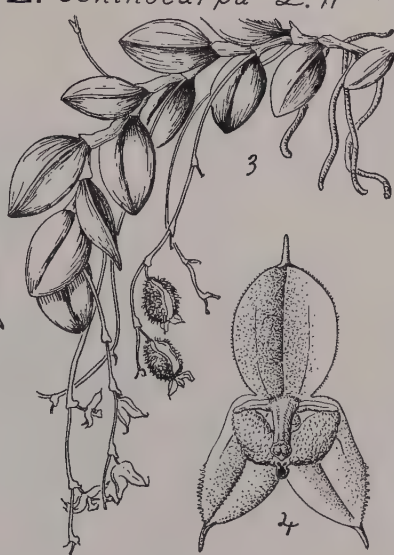
Drawn by G. W. DILLON

LEPANTHES

lancipetala L. W^{ms.}



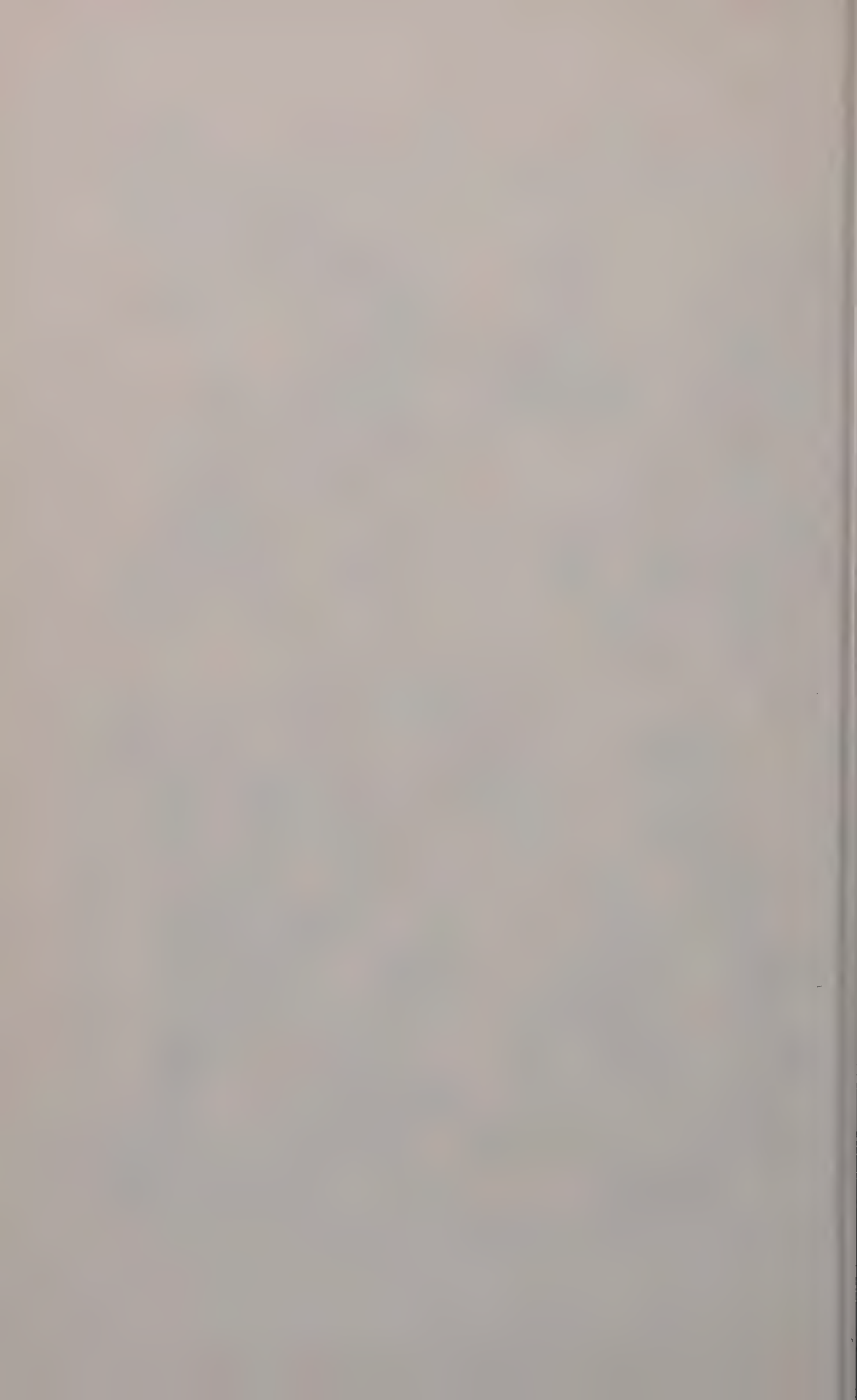
L. echinocarpa L. fl^{ms.}



MASDEVALLIA

Summersii L. W^{ms.}

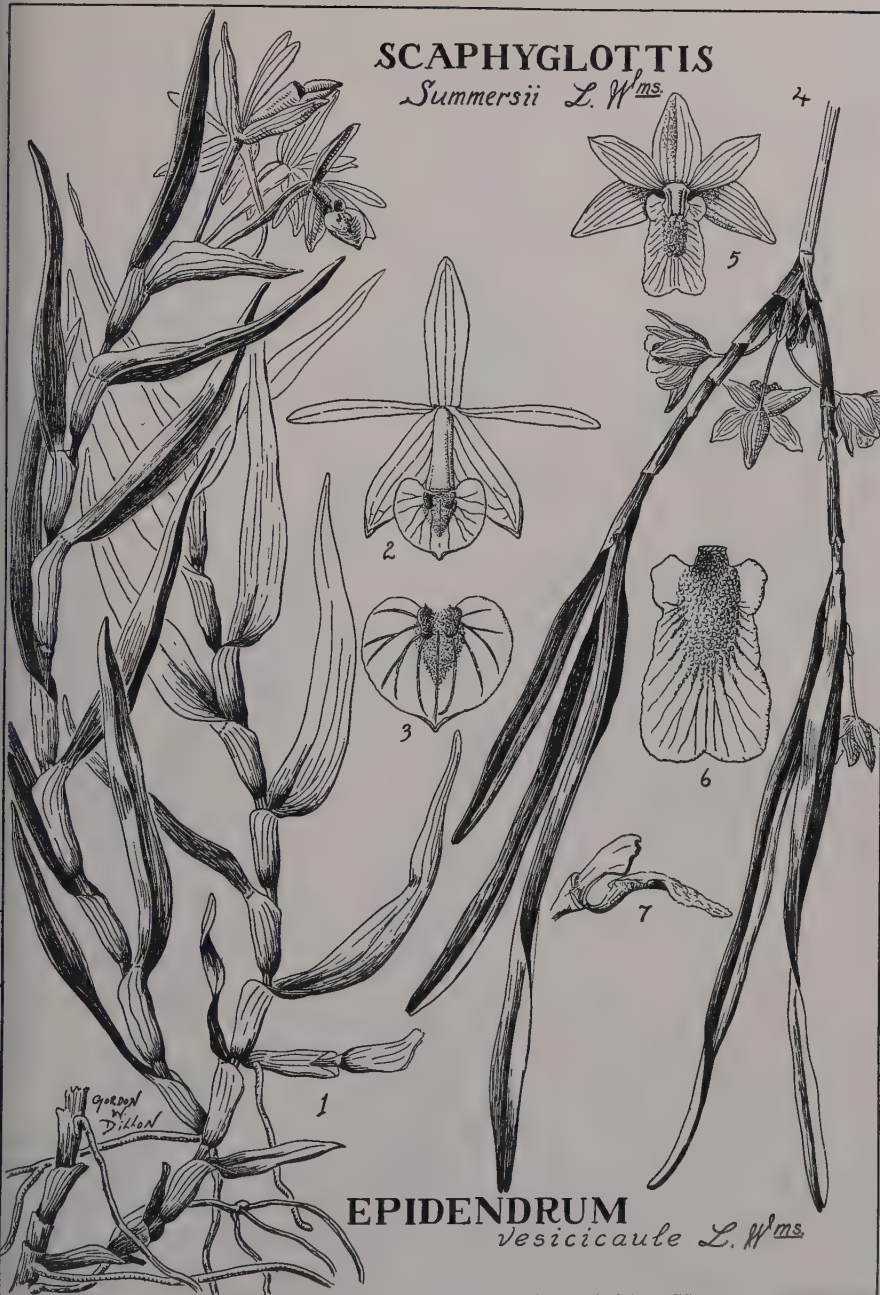






SCAPHYGLOTTIS

Summersii L. W^{ms}

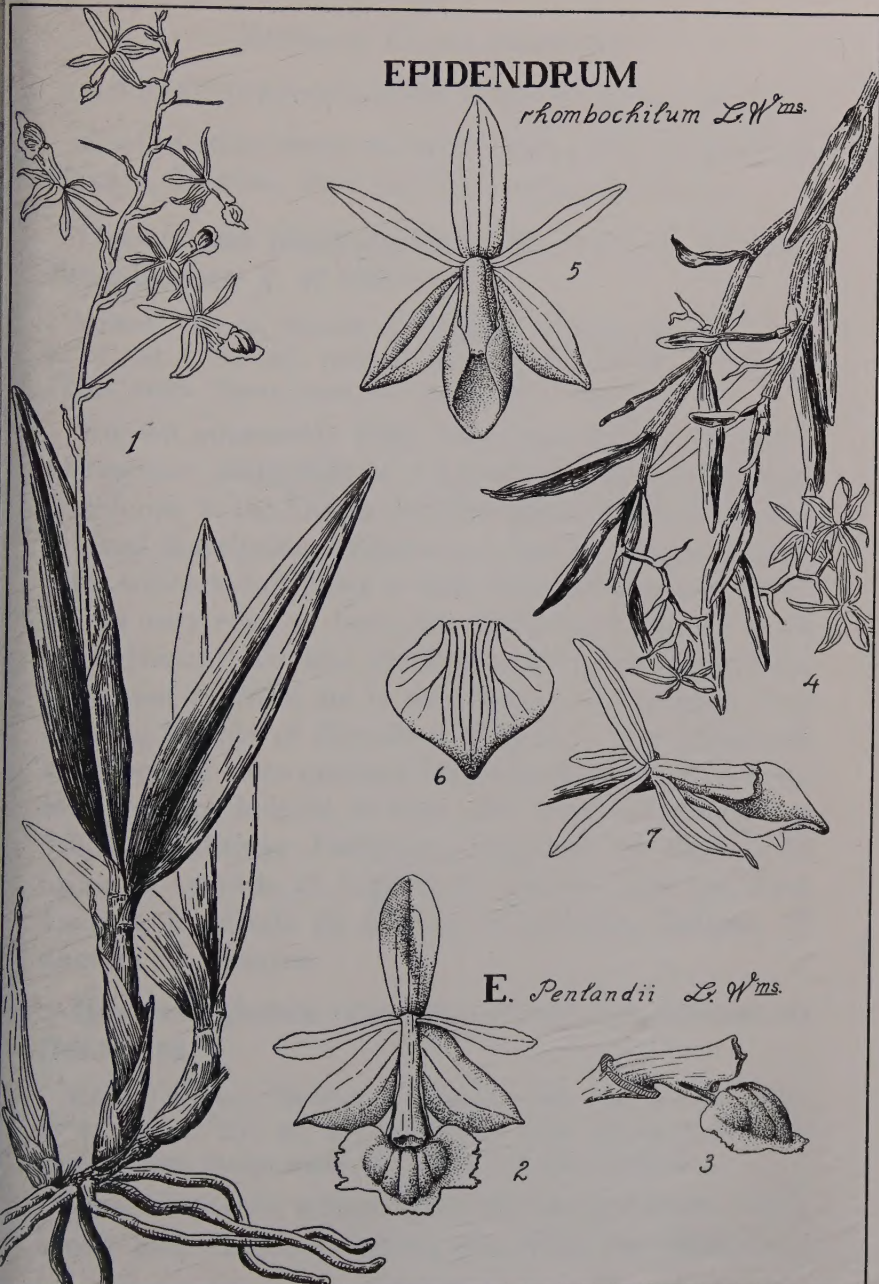


EPIDENDRUM

vesicicaule L. W^{ms}

EPIDENDRUM

rhombochilum L. Wms.



E. Pentlandii L. Wms.

PLANTAE MEXICANAE VII

BY

RICHARD EVANS SCHULTES

TWO RARE ENDEMICS FROM NORTHEASTERN OAXACA

AMONG other plants recently collected in northeastern Oaxaca, Mexico, were two interesting endemics.

Oreopanax platyphyllum *Marchal* in Bull. Acad. Bruxelles, ser. 2, 47 (1879) 88.

MEXICO: Oaxaca, District of Choapam, Santiago Choapam, long. $95^{\circ}55'$, lat. $17^{\circ}20'$, alt. 1000 m., May 13, 1939, *Schultes & Reko* 907 (Econ. Herb. Oakes Ames No. 5833; Herb. Gray).

Known apparently from only two other collections, *Oreopanax platyphyllum*, a member of the Araliaceae, is endemic to the District of Choapam in Oaxaca. In the original description, Marchal referred to the two collections which were known at that time as follows: "Mexico, ad Jocatepec et Lobcoba, Liebmann nos. 17 et 18 in hb. Haun." No state was designated in the description, but these localities are in the District of Choapam very near the locality of *Schultes & Reko* 907. The Liebmann localities are often omitted from standard maps; it may, therefore, be helpful to note that they are situated as follows: Santiago Jocotepec, longitude 95 degrees 56 minutes, latitude 17 degrees 33 minutes; and San Juan Lacova, longitude 95 degrees 55 minutes, latitude 17 degrees 29 minutes.

Besleria glabra (*Oersted*) *Hanstein* in Linnaea 34 (1865) 325.

MEXICO: Oaxaca, District of Choapam, San Juan Lalana, long. $95^{\circ}45'$, lat. $17^{\circ}25'$, alt. 350 m., May 6, 1939, *Schultes & Reko* 784 (Econ. Herb. Oakes Ames No. 7120; U.S. Nat. Herb.).

Besleria glabra, a member of the Gesneriaceae, is also a very local endemic, known only from the District of

Choapam in Oaxaca. In discussing the local distribution of species of *Besleria*, Morton (*Revision of Besleria* in Contrib. U.S. Nat. Herb. 26 (1939) 403) stated: "The actual rarity of the species is well shown by a consideration of those known from Mexico. Four were described from Mexico by Oersted in 1858. These are *B. glabra*, *B. deflexa*, *B. cyrtanthemum*, and *B. hirsuta*, none of which have since been collected in Mexico or found elsewhere, except perhaps *B. hirsuta*." *Besleria glabra* has been known from one Liebmann and one Galeotti collection. *Schultes & Reko* 784, apparently the third collection, does not extend the range of the plant but supports Morton's statement concerning the endemism of the species.

Besleria glabra has been assigned to the State of Puebla by Morton who cited the locality of the Liebmann specimen as "Lacoba, Chinantla, State of Puebla, Mexico". This should be corrected to read, "...State of Oaxaca..." *Chinantla* is a local name referring to the District of Choapam and does not appear on maps of Oaxaca. It has often been confused with *Chinautla*, the name of a town which does appear on maps of Puebla. Oersted (*Gesneraceae centro-americanae* (1858) 55) in the original description of *Besleria glabra*, stated that the type plants "funden af Liebmann i Mexico i Departementet Oajaca ved Lacoba og Chinantla." Hanstein (*Linnaea* 34 (1865) 325) cited the specimen as "Mexico, Oajaca, Chinantla, Liebmann." The exact locality of San Juan Lacova is longitude 95 degrees 55 minutes, latitude 17 degrees 29 minutes.

Galeotti 1921, which has been referred to *Besleria glabra*, is labelled simply "Oaxaca." Since Galeotti made extensive collections in the Liebmann localities in northeastern Oaxaca, it seems very probable that his collection was made in this part of the state.